WHAT IS CLAIMED IS:

1. A group-III nitride semiconductor light-emitting device comprising a single crystal substrate having thereon a light-emitting part structure comprising a gallium nitride phosphide ($GaN_{1-X}P_X$, wherein $0<X<1$) single crystal layer provided via a boron phosphide (BP)-based buffer layer.

2. The group-III nitride semiconductor light-emitting device as claimed in claim 1, wherein the boron phosphide-based buffer layer is amorphous.

3. The group-III nitride semiconductor light-emitting device as claimed in claim 1, wherein the boron phosphide-based buffer layer comprises a crystalline multilayer structure including an amorphous layer and a crystalline layer.

4. The group-III nitride semiconductor light-emitting device as claimed in claim 1, wherein the light-emitting part structure is a single hetero-junction structure comprising a gallium nitride phosphide single crystal layer.

5. The group-III nitride semiconductor light-emitting device as claimed in claim 1, wherein the light-emitting part structure is a double hetero-junction structure comprising a gallium nitride phosphide single crystal layer.

6. The group-III nitride semiconductor light-emitting device as claimed in claim 1, wherein a degree of lattice mismatch between the boron phosphide-based buffer layer and the gallium nitride phosphide single crystal layer is ±1% or less.

7. The group-III nitride semiconductor light-emitting device as claimed in claim 4, wherein a degree of lattice mismatch between the boron phosphide-based buffer layer and the gallium nitride phosphide single crystal layer is ±0.4% or less.

8. The group-III nitride semiconductor light-emitting device as claimed

in claim 5, wherein a degree of lattice mismatch between the boron phosphide-based buffer layer and the gallium nitride phosphide single crystal layer is ±0.4% or less.

9. The group-III nitride semiconductor light-emitting device as claimed in claim 6, wherein a degree of lattice mismatch between the boron phosphide-based buffer layer and the gallium nitride phosphide single crystal layer is ±0.4% or less.

10. The group-III nitride semiconductor light-emitting device as claimed in claim 1, wherein the boron phosphide-based buffer layer comprises boron phosphide (BP) and in the light-emitting part structure, the gallium nitride phosphide single crystal layer has a phosphorus (P) compositional ratio of 1 to 5%.

11. The group-III nitride semiconductor light-emitting device as claimed in claim 4, wherein the boron phosphide-based buffer layer comprises boron phosphide (BP) and in the light-emitting part structure, the gallium nitride phosphide single crystal layer has a phosphorus (P) compositional ratio of 1 to 5%.

12. The group-III nitride semiconductor light-emitting device as claimed in claim 5, wherein the boron phosphide-based buffer layer comprises boron phosphide (BP) and in the light-emitting part structure, the gallium nitride phosphide single crystal layer has a phosphorus (P) compositional ratio of 1 to 5%.

13. The group-III nitride semiconductor light-emitting device as claimed in claim 6, wherein the boron phosphide-based buffer layer comprises boron phosphide (BP) and in the light-emitting part structure, the gallium nitride phosphide single crystal layer has a phosphorus (P) compositional ratio of 1 to 5%.

14. A lamp comprising the group-III nitride semiconductor light-emitting device as claimed in claim 1, a mount lead and an inner lead.

15. A light source comprising the lamp as claimed in claim 14.

16. A method for producing a group-III nitride semiconductor light-emitting device, comprising

forming a boron phosphide (BP)-based buffer layer on a single crystal substrate, and

providing a light-emitting part structure containing a gallium nitride phosphide ($GaN_{1-x}P_x$, wherein $0<X<1$) single crystal layer.

17. The method for producing a group-III nitride semiconductor light-emitting device as claimed in claim 16, wherein the boron phosphide-based buffer layer is amorphous.

18. The method for producing a group-III nitride semiconductor light-emitting device as claimed in claim 16, wherein the boron phosphide-based buffer layer comprises a crystalline multilayer structure including an amorphous layer and a crystalline layer.

19. The method for producing a group-III nitride semiconductor light-emitting device as claimed in claim 16, wherein a degree of lattice mismatch between the boron phosphide-based buffer layer and the gallium nitride phosphide single crystal layer is ±1% or less.

20. The method for producing a group-III nitride semiconductor light-emitting device as claimed in claim 16, wherein a degree of lattice mismatch between the boron phosphide-based buffer layer and the gallium nitride phosphide single crystal layer is ±0.4% or less.

21. The method for producing a group-III nitride semiconductor light-emitting device as claimed in claim 16, wherein the boron phosphide-type buffer layer comprises boron phosphide (B) and the gallium nitride phosphide single crystal layer in the light-emitting part structure has a phosphorus (P) compositional ratio of 1 to 5%.

22. A group-III nitride semiconductor light-emitting device comprising a single crystal substrate, a boron phosphide (BP)-based buffer layer and a single hetero-junction light-emitting part structure, wherein the single hetero-junction light-emitting part structure containing a $GaN_{1-X}P_X$ ($0<X<1$) lower clad layer lying on the BP-based buffer layer and a $GaN_{1-X}P_X$ light-emitting layer having a conduction type opposite the conduction type of $GaN_{1-X}P_X$ lower clad layer.

23. A group-III nitride semiconductor light-emitting device comprising a single crystal substrate, a boron phosphide (BP)-based buffer layer and a double hetero-junction light-emitting part structure, wherein the double hetero-junction light-emitting part structure containing a $GaN_{1-X}P_X$ ($0<X<1$) lower clad layer, a $Ga_YIn_{1-Y}N$ ($0\leq Y\leq 1$) light-emitting layer and an $Al_ZGa_{1-Z}N$ ($0\leq Z\leq 1$) upper clad layer having a conduction type opposite the conduction type of the lower clad layer.

24. A group-III nitride semiconductor light-emitting device according to claim 22, wherein the lower clad layer has a dislocation density of 1×10^5 cm^{-2} to 1×10^6 cm^{-2}.

25. A group-III nitride semiconductor light-emitting device according to claim 22, wherein the lattice mismatch between the lower clad layer and the light-emitting layer is 0.3% at most.

26. A group-III nitride semiconductor light-emitting device according to claim 22, wherein the light-emitting layer has a dislocation density of 2×10^5 cm^{-2} to 1×10^6 cm^{-2}.

27. A group-III nitride semiconductor light-emitting device according to claim 22, wherein the buffer layer has the lattice constant of the original crystal of the material on the buffer layer surface opposite the junction interface with the substrate and the thickness of 5 nm to 50 nm.